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The Relationship Between Victim Age and Gender Crossover Among Sex Offenders

Jill S. Levenson
Lynn University, Boca Raton, Florida
Jennifer Becker
Florida International University, Miami
John W. Morin
Oakbrook Counseling Center, Fort Lauderdale, Florida

Some child molesters abuse children of both genders. The purpose of this study was to explore the relationship between gender crossover and victim age. The authors hypothesized that offenders who molested children of both genders would be more likely to have very young victims and that offenders who molested very young children would be more likely to abuse children of both sexes than offenders with older victims. The sample consisted of 362 sex offenders being considered for civil commitment as sexually violent predators in Florida. Data were collected from file reviews. The relationship between victim age and gender crossover was examined using chi-square and multivariate logistic regression analyses. The proportion of offenders with victims of both genders significantly increased as the victims' ages decreased, and sex offenders with preschool-age victims were most likely to have abused both boys and girls. A sex offender with a victim 6 years of age or younger had more than 3 times the odds of having perpetrated sex crimes against both genders than a sex offender with only older victims. Sex offenders with victims of both genders had more than 3 times the odds of having preschool victims. The presence of a major mental illness increased the odds of gender crossover more than threefold. Pedophilia increased the odds of having victims younger than 6 more than 11-fold. Implications for practice are discussed.

Keywords: *sex offender; child sex abuse; victim age; victim gender; crossover*

Sexual abuse of young children is a serious concern in our society, and approaches for protecting children are hotly debated by politicians, the popular media, and social scientists. In 2004, more than 84,000 children across the United States were verified by child protection agencies to be victims of sexual abuse, accounting for approximately 10% of the total number of substantiated cases of child maltreatment (U.S. Department of Health and Human Services, 2006). Moreover, official reports may represent a grave underestimation of actual prevalence. A retrospective national telephone survey indicated that 32% of women and 14% of men suffered sexual victimization during childhood, with a reported mean age of onset of 9 years (Briere &

Elliot, 2003). Of all sexual assault victims, the U.S. Department of Justice reported that 14% were age 5 or younger (Bureau of Justice Statistics, 2000), and other researchers have estimated that between 25% and 35% of child victims are younger than age 6 (Fontanella, Harrington, & Zuravin, 2000). Understanding factors that make children vulnerable to such abuse, as well as identifying patterns of offenders' behaviors, can contribute to improved child protection assessment and offender treatment services (Levenson & Morin, 2006b). The purpose of this study was to explore the relationship between victim gender and age in sex offenders' abuse patterns.

Research has established that sex offenders' victim preferences may not be age specific, that some offenders assault victims of both sexes, that some abuse acquaintances or strangers as well as family members, and that some commit both hands-on and noncontact offenses (Abel, Becker, Cunningham-Rathner, Mittleman, & Rouleou, 1988; Abel et al., 1987; Ahlmeyer, Heil, McKee, & English, 2000; English, Jones, Pasini-Hill, Patrick, & Cooley-Towell, 2000; Heil, Ahlmeyer, & Simons, 2003). This phenomenon is called "crossover" and is described by researchers as engaging in more than one type of sex-offending behavior or victimizing individuals from different relationship categories, genders, or age groups (Abel & Osborn, 1992; English et al., 2000; Heil et al., 2003; Heil & Simons, 2008; O'Connell, 1998; Wilcox, Sosnowski, Warberg, & Beech, 2005). It may be especially important to understand gender crossover in child molesters, given the vulnerability of youngsters who come in contact with them. Understanding crossover patterns of child molesters can assist with prevention, clinical treatment planning, child safety planning, and community management.

Background

Crossover Offending

Erotic gender differentiation has been described as an individual's sexual arousal to his most preferred gender and age group, compared to his arousal to the opposite gender in the preferred age group (Freund, Watson, Dickey, & Rienzo, 1991). Using plethysmography, a device that measures penile erectile response, researchers tested the erotic gender differentiation between pedophilic child molesters, rapists, and male nonoffender controls who were attracted only to adults (Freund et al., 1991). They found that the gender preference patterns of phallometrically diagnosed pedophiles were significantly less differentiated than those of males who prefer physically mature partners. In other words, pedophiles who demonstrated arousal to prepubescent children were more likely to show arousal to both genders.

Gender crossover among sex offenders appears to be a not uncommon phenomenon. A study of 678 Canadian sex offenders found that about 25% of them had abused children of both genders (Blanchard et al., 1999). A survey that promised anonymity

and immunity to sex offenders to encourage disclosure revealed that 23% of child molesters who were convicted for molesting girls had also abused boys, and 63% of molesters of boys admitted to sexually abusing female children (Abel & Osborn, 1992). More recent studies that used polygraph examination to verify sexual histories discovered that between 29% and 40% of sex offenders had victimized children of both genders (English et al., 2000; Heil et al., 2003). Given that diversity of sex crimes is a risk factor for sexual recidivism (Hanson & Bussiere, 1998; Hanson & Morton-Bourgon, 2005) and that offenders who target victims of both sexes have a larger pool of potential victims from which to choose, logic suggests that age and gender crossover offenders would be potentially more dangerous than other offenders.

Research to date, however, does not support this supposition. Among the factors showing an association with sex offense recidivism are sexual attraction to children (measured by phallometric assessment) and having a male victim (Hanson & Bussiere, 1998). In fact, it has frequently been noted that molesters of boys are at higher risk to reoffend (Harris & Hanson, 2004; Prentky, Lee, Knight, & Cerce, 1997) and that they have more victims than those who abuse girls (Abel et al., 1987). Molesting children of both sexes has not been identified as a risk factor, nor has having very young victims been found to be associated with recidivism (Hanson & Bussiere, 1998). In a study investigating the process of risk assessment, however, evaluators seemed to perceive abusers of very young children as more dangerous, as evidenced by an inverse correlation between victim age and the likelihood of being detained for civil commitment (Levenson & Morin, 2006a).

In sum, there is an emerging body of research indicating that many sex offenders engage in crossover patterns. The link between these patterns and risk of recidivism, however, remains unclear. As well, the relationship between gender crossover and victim age has rarely been investigated.

Gender and Age of Sexual Abuse Victims

It has long been noted that estimating the true incidence of molestation of children in general and boys in particular is difficult to calculate (Finkelhor, 1984). Reports of sexual abuse to child welfare and law enforcement agencies are much more likely to involve female victims than male (Bureau of Justice Statistics, 2000), but self-report and retrospective studies indicate that boys are victimized more often than official data suggest (Finkelhor, 1984, 1994). Finkelhor (1984) found that 16% of adult males reported sexual abuse as a child, and parents reported that 39% of the children who disclosed sexual abuse to them were boys. Such discrepancies between reports to authorities and retrospective reports of sexual abuse are likely attributable to lower disclosure rates among males. Males are more likely to delay or refuse disclosure than females (Goodman-Brown, Edelstein, Goodman, Jones, & Gordon, 2003), primarily because of feelings of shame or the fear of stigma (e.g., homosexuality, victim label; Finkelhor, 1984).

Challenges also exist in estimating the prevalence of sexual abuse among very young children, given their limited capacity to report abuse. In general, infants and toddlers are at the greatest risk of physical child abuse and neglect by their caregivers (U.S. Department of Health and Human Services, 2005; Weedon, Torti, & Zunder, 1988). Yet children older than the age of 12 consistently account for the majority of reported sexual abuse victims (Boney-McCoy & Finkelhor, 1995; Bureau of Justice Statistics, 2000; Finkelhor & Kendall-Tackett, 1997; Finkelhor, Ormrod, Turner, & Hamby, 2005). It is possible that even though very young children are more vulnerable to abuse, pubescent children are more desirable victims for many sex offenders. Risk of sexual victimization appears to increase steadily with age (Bureau of Justice Statistics, 2000), which has been presumed to be related to the onset of puberty and physical or sexual development. Some theorists suggest, however, that there are disproportionate rates of disclosure and detection between younger children and teens rather than actual differences in incidence (Finkelhor, 1995; Finkelhor & Dziuba-Leatherman, 1994). Finkelhor's (1984) survey found that 37% of sexually abused children in Boston were younger than the age of 7. According to the Department of Justice, the highest reported rate of sexual abuse for males is at the age of 4 (Bureau of Justice Statistics, 2000).

Developmental vulnerabilities inherent to very young children contribute to their risk of sexual abuse, including their degree of dependency on caregivers, undeveloped verbal and cognitive skills, inability to protect themselves, and minimal social interaction outside of the home where abuse may be detected or disclosed (Brilleslijper-Kater, Friedrich, & Corwin, 2004; Finkelhor, 1995; Finkelhor & Kendall-Tackett, 1997; Fontanella et al., 2000). A child's developmental capacities influence his or her ability to appreciate the wrongfulness of abuse and to find the words to describe it (Campis, Hebden-Curtis, & Demaso, 1993; Goodman-Brown et al., 2003). Thus, when a very young child is sexually victimized, it can easily go undiscovered. Finkelhor et al. (2005) estimated that 1.5% of children between the ages of 2 and 5 have been sexually abused. Though parents tended to estimate the risk of sexual abuse to be highest for children between the ages of 9 and 12, Finkelhor (1984) found that 11% of victims in the Boston sample were 2 years old, and about 13% were 5 and 6 years of age.

In a record review of 74 cases of sexually abused children ages 2 to 5, Fontanella et al. (2000) found no significant differences between males and females with regard to mean age of onset of abuse (37 months for males, 41 months for females), or relationship to the perpetrator. Boys and girls alike were most likely to be abused by someone they knew well (78%), and the majority of abuse occurred in the child's home (60%). Many offenders were male relatives. Boys experienced more fondling and oral and anal intercourse than girls, but girls were more likely to experience some form of penetration than boys (64% of girls vs. 28% of boys). These findings suggest that young children may be a unique subtype of sexual abuse victims, with less gender variation in abuse experiences than older children.

In a study comparing 48 incest offenders who had abused infants or toddlers with 71 incestuous abusers of adolescent victims, some factors were identified as contributing to molestation of preschool children (Firestone, Dixon, Nunes, & Bradford, 2005). Those with very young victims were more likely to abuse alcohol, to be more psychiatrically disturbed, and to have abused a male victim.

Theoretical explanations for the abuse of very young children are scant. It is likely that some sex offenders are simply more aroused by younger children than by older children, though the reasons for such attractions are unknown (Freund et al., 1991; Marshall, 1997). Finkelhor's (1984) four-factor model suggested that sexual arousal must be coupled with the ability to overcome internal inhibitors for the abuse to occur. Some molesters might be more indiscriminate and opportunistic and assault victims of any age when circumstances allow (Marshall, 1997). Still others may be drawn primarily by the small child's developmental vulnerability and the relative ease of avoiding disclosure. Though it is clear that many sexual abusers have victimized both genders, the factors that contribute to gender crossover are unknown, and little theory has been advanced to explain this phenomenon.

Research Questions and Hypotheses

The purpose of this study was to explore the relationship between gender crossover and victim age. We hypothesized that victim age and gender crossover would be related to each other. Specifically, we postulated that the gender ambiguity of preschoolers might influence a sex offender to be more arbitrary in his selection of very young victims. Thus, we hypothesized that molesters of both sexes would be more likely to abuse very young children and that molesters of preschoolers would be more likely to have victims of both genders. As well, a goal of this study was to examine a number of other variables that were hypothesized to be associated with the victimization of children younger than age 6 and gender crossover.

Our goal was that this nonexperimental exploratory study would contribute to the understanding of sexually abusive behaviors with very young, vulnerable children. Results were expected to inform child protection and sexual abuse prevention efforts as well as expand the knowledge of sex offender assessment, treatment, and management.

Method

Sample

This nonrandom, purposive sample was drawn from a pool of 450 male, adult, competent sex offenders who were evaluated for civil commitment as a sexually violent predator (SVP) in Florida between July 1, 2000, and June 30, 2001. Data were collected from the psychological evaluation reports of these sex offenders. The

Table 1
Description of Sample (N = 362)

Characteristic	Frequency	Percentage	Mean	Standard Deviation
Rapist (victim 18 or older)	79	22		
Molester (victim < 18)	189	52		
Mixed (more than one offense type)	94	26		
Extrafamilial victim	335	93		
Male victims only	36	10		
Female victims only	248	69		
Victims of both genders	78	22		
Offender race White nonminority	199	55		
Offender currently married	48	14		
Self-reported history of childhood sexual abuse	106	29		
Years of education			11	2.25
Age of offender			42	11.83
Static-99 score			5	2.029
MnSost-R score			7	5.596
RRASOR score			3	1.15
PCL-R score			21	9.27
Age of youngest victim			11	7.16
Total number of known or admitted victims			5	8.34
Total number of sex crime arrests			3	1.9
Total number of nonsex arrests			8	8.84
Diagnosis				
Pedophilia	124	34		
Sexual sadism	8	2		
Exhibitionism	20	6		
Paraphilia not otherwise specified	123	34		
Antisocial personality disorder	126	35		
Personality disorder not otherwise specified	91	25		
Other personality disorder	6	2		
Substance disorder	170	47		
Other mental illness (major mood or psychotic)	40	11		

Note: percentages may not add up to 100% because some subjects were diagnosed with more than one disorder. MnSost-R = Minnesota Sex Offender Screening Tool–Revised (Epperson et al., 1999); RRASOR = Rapid Risk Assessment for Sexual Offense Recidivism (Hanson, 1997); PCL-R = Psychopathy Checklist–Revised (Hare, 1991).

sample size was reduced to 362 after deleting noncontact offenders and offenders with fewer than two victims. Descriptive characteristics of the sample are illustrated in Table 1. Rapists were defined as those subjects whose documented victims were exclusively 18 or older. Child molesters included those with all victims younger than the age of 18. Mixed offenders had both adult and minor victims.

Data Collection Procedure

The Florida Department of Children and Families (DCF) provided access to SVP evaluation reports completed by a pool of 25 licensed psychologists or psychiatrists. Data were coded and recorded by the first two authors via review of the evaluations. The study was conducted according to ethical guidelines for the protection of human participants and was approved by an institutional review board.

The purpose of the evaluations was to determine whether the participant met criteria for civil commitment based on a diagnostic appraisal and an assessment of recidivism risk. Evaluators used the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text revision; *DSM-IV-TR*; American Psychiatric Association, 2000). They typically used actuarial risk assessment instruments such as the Static-99 (Hanson & Thornton, 1999) and Rapid Risk Assessment for Sexual Offense Recidivism (RRASOR; Hanson, 1997). In many cases, they used the Psychopathy Checklist–Revised (PCL-R; Hare, 1991) to assess for psychopathy. Evaluation reports also included criminal history and psychosocial information obtained through record review and client interview. Subjects were interviewed by evaluators at the prisons in which they were incarcerated, ordinarily within 6 months of their scheduled release date.

Variables

A number of variables described in the reports were hypothesized by us to be related to victim age or gender crossover: the diagnoses pedophilia and antisocial personality disorder (APD), the personality syndrome psychopathy, sexual abuse as a child, substance abuse, and major mental illness. Psychopathy was measured by the offender's score on the PCL-R. Pedophilia, APD, and substance abuse disorders were coded according to the *DSM-IV-TR* diagnostic criteria. Major mental illness was defined as meeting *DSM-IV-TR* criteria for a major mood disorder or a psychotic disorder. Sexual abuse as a child was defined by the offender's self-report.

We speculated that psychopathic or antisocial sex offenders, who are inclined to indulge their desire for immediate gratification impulsively and without inhibition, might be likely to abuse available victims of any age or gender. Among individuals with deviant sexual preferences, both antisocial personality disorder and psychopathy have been found to increase the likelihood of recidivistic offending (Hanson & Bussiere, 1998; Hanson & Morton-Bourgon, 2005; Quinsey, Lalumiere, Rice, & Harris, 1995). However, APD is more prevalent in rapists than pedophiles (Marques, Day, Nelson, & Miner, 1989; Prentky & Knight, 1991), and only about 12% of child molesters meet criteria for APD (Abel, Mittleman, & Becker, 1985). Psychopathy is similarly uncommon among child molesters (Marshall, 1997). We speculated that either APD or psychopathy could be associated with an indiscriminate offending style.

We did not have phallometric data available to confirm deviant interest in children, so we used the diagnosis pedophilia as an indicator of chronic exclusive or primary attraction to children. To warrant a diagnosis of pedophilia, the *DSM-IV-TR* requires a 6-month pattern of fantasies, sexual urges, or behaviors involving sexual activity with a prepubescent child. We hypothesized that those with a pedophilia diagnosis would be more likely to abuse very young children and children of both genders.

Substance abuse disorders are prevalent among sex offenders (Kafka & Hennen, 2002). We speculated that the use of disinhibiting substances would increase the likelihood of indiscriminate offending, including the abuse of small children or children of both genders. Though a history of substance abuse is unrelated to recidivism risk (Hanson & Bussiere, 1998; Hanson & Morton-Bourgon, 2005), ongoing substance use has frequently been posited as a dynamic risk factor for sexual offending (Finkelhor, 1984; Hanson & Harris, 1998). Few sex offenders have psychotic disorders (Abel, Rouleou, & Cunningham-Rathner, 1986), but mood disorders, particularly, bipolar disorder, can contribute to hypersexuality and sexual behavior problems (Kafka & Hennen, 2002). Given the unique subtypes of victims of interest in this study, we postulated that substance abuse and major mental health disorders are potentially related to disinhibition, impulsivity, and indiscriminate offending.

Finally, we included childhood victimization as a possible predictor. The experience of being sexually abused as a child appears to be related (though not causally) to sex offending as an adult, and some research indicates that molesters who were abused as children are more likely to abuse boys (Hanson & Slater, 1988). Other researchers have found that sex offenders abused in childhood are not more likely to abuse both genders (Aylwin, Studer, Reddon, & Clelland, 2003). We believed that this variable warranted further investigation, especially regarding its possible influence on the victimization of very young children.

Data Analysis

Data were analyzed using SPSS Version 13. First, the relationship between victim age and gender crossover was examined using chi-square analysis. The age of the youngest victim identified either in official records or by offender self-report was recorded. Victim age was then recoded from a continuous variable into a discrete variable with the following categories: (a) ages 0 to 6, (b) ages 7 to 12, (c) ages 13 to 17, and (d) older than 18. The groupings were theorized to represent preschool children, prepubescent children, minor pubescent teens, and adults. Gender crossover was coded categorically to reflect whether the offender had victims of either gender or victims of both genders. Next, logistic regression analyses were used to examine the relationship between victim age and gender crossover while also including other variables hypothesized to be potentially relevant. Of 362 cases, the age of the offender's youngest victim was known in 311 cases. Thus, the chi-square analysis involved 311 participants. Victim age data were most often missing when the victim

Table 2
Chi-Square Analysis of Victim Age and Gender Crossover (N = 311)

	Victim Gender			
Victim Age	One Gender *n*	Both Genders *n*	Total *n*	χ^2
0 to 6	53 (58%)	38 (42%)	91	
7 to 12	103 (82%)	23 (18%)	126	
13 to 17	50 (83%)	10 (17%)	60	
18 or older	32 (94%)	2 (6%)	34	
Total	238	73	311	26.253***

***$p < .001$.

was identified as an adult. Missing data (most often PCL-R scores) further reduced the sample for logistic regression analyses to 163.

Results

First, chi-square analysis was used to determine whether there was a relationship between victim age and gender crossover as defined by the categories above (see Table 2). In other words, we sought to determine whether offenders of various age groups differed in their gender crossover patterns. As can be seen by the values reported in Table 2, column 3, the proportion of offenders with victims of both genders increased as the victims' ages decreased. The differences between age groups were statistically significant ($\chi^2 = 26.253$, $df = 3$, $p = .000$). This finding suggests that young victim age is associated with gender crossover. Sex offenders with preschool age victims were most likely to have abused both boys and girls.

The Gamma statistic is a measure of both the strength and direction of the relationship between ordinal variables. The value of the statistic ranges from 0 to 1 and represents the proportional reduction in error when predicting the value of one variable based on the other. In this case, the Gamma value was –.486 ($p < .001$), suggesting that the strength of the relationship between the two variables was fairly strong and inverse. An absolute value of .486 may be interpreted to mean that the error rate in predicting gender crossover from victim age is reduced by about 49% compared to what could be expected by chance.

The bivariate correlation between victim age and gender crossover was calculated using the Pearson correlation coefficient and revealed a significant, inverse relationship ($r = –.22$, $p < .01$). The strength of this correlation is considered to be moderate (Cohen & Cohen, 1983). Without considering other relevant variables, the independent influence of any one variable on another is less clear. Therefore, multivariate logistic regression analysis was conducted, using both gender crossover and victim age younger

than 6 as the dependent variable in separate analyses. Though bivariate correlation analysis can detect a significant association between variables, we sought to investigate the role of gender crossover and young victim age in predicting each other while also considering other variables hypothesized to be related to these outcomes.

Additional independent variables hypothesized to be related to gender crossover and young victim age included perpetrator abused as child, psychopathy, pedophilia, substance abuse disorder, mental illness (diagnosis of major mood disorder or psychotic disorder), and APD. We also included the Static-99 score as a predictor to see whether high-risk offenders were more likely to abuse very young children or victims of both genders. Variance inflation factors (VIFs) were calculated to assess for multicollinearity. The VIF indicates whether variables have such strong relationships with each other that independent effects cannot be established. Serious multicollinearity problems occur when VIFs are greater than 10 (Gujarati, 1995). All of the VIFs for the variables in the model were less than 2, indicating limited multicollinearity and thus more accurate regression coefficients.

Table 3 displays the logistic regression coefficients for variables hypothesized to predict gender crossover. Missing data (most often PCL-R scores) reduced the sample size to 163 when using the variables included in the analysis. Power analysis determined that the sample size was sufficient to detect a medium effect size within a 95% confidence interval (two-tailed) using regression techniques with eight predictors (Faul & Erdfelder, 1992). The model was statistically significant ($\chi^2 = 20.902$, $df = 8$, $p = .007$), suggesting that the variables in the model reliably distinguished offenders with victims of one gender from those who abused both genders. The variance explained by the model is indicated by the Nagelkerke R^2 (.19) and can be interpreted to mean that the combination of factors in the model explain about 19% of the variance in gender crossover. It should be noted that logistic regression does not conform to the assumptions of ordinary least squares models, because the errors of nonparametric variables cannot be normally distributed and cannot have constant variance (Fox, 1997). The R^2 is therefore somewhat artificial but gives a measure of the relative meaningfulness of the model. The statistically significant variables were victim age younger than 6 ($p = .01$) and major mental illness ($p = .03$). Prediction analysis revealed that the model was able to correctly classify 97% of the one-gender offenders and 10% of the two-gender offenders, for an overall correct classification of 80%.

The Wald statistic is calculated for each independent variable to determine the statistical significance of the value of β, the correlation coefficient that measures the strength of the relationship (Pampel, 2000). The square of the ratio of β to the standard error equals the Wald statistic. The Wald statistic indicates whether the variable is a significant ($p < .05$) predictor and contributes to the model more than would be expected by chance. Exp(B) is the proportional change in the odds of the outcome occurring for each unit increase in the independent variables. When the odds ratio is greater than 1, increasing values of the independent variable increase the odds of the dependent variable's occurrence. As measures of effect size, odds ratios of 2.3 are

Table 3
Logistic Regression Analysis of Factors Predicting Gender Crossover ($N = 163$)

						95.0% C.I. for Exp(B)	
	β	*SE*	Wald	Sig.	Exp(B)	Lower	Upper
Victim younger than 6**	1.234	.504	5.987	.014	3.435	1.278	9.231
PCL-R score	–.010	.032	.104	.747	.990	.929	1.054
Pedophilia	.545	.526	1.072	.300	1.724	.615	4.836
Antisocial	.691	.607	1.296	.255	1.995	.608	6.554
Substance disorder	–.357	.466	.588	.443	.700	.281	1.743
Major mental illness*	1.281	.600	4.555	.033	3.601	1.110	11.680
Sexual abuse as child	.588	.465	1.600	.206	1.801	.724	4.483
Static-99 score	–.032	.117	.076	.783	.968	.769	1.218
Constant	–2.283	.733	9.711	.002	.102		
χ^2	20.902**						
–2 log likelihood	137.694						
Nagelkerke R^2	.19						

Note: $\chi^2 = 20.902$, $df = 8$, $p = .007$. C.I. = confidence interval; PCL-R = Psychopathy Checklist–Revised (Hare, 1991).
*$p \leq .05$. **$p < .01$. ***$p < .001$ (two-tailed tests).

considered medium, and 3.7 is considered a large effect size (Sanchez-Meca, Chacon-Moscoso, & Marin-Martinez, 2003).

If a sex offender had a victim 6 years of age or younger, his odds of having perpetrated sex crimes against both genders were more than 3 times that of a sex offender with only older victims. Having a diagnosis of a major mental illness increased the odds of gender crossover more than threefold. Pedophilia, psychopathy, and childhood sexual abuse slightly increased the odds of gender crossover but not significantly. Static-99 score was not found to be predictive of gender crossover.

Table 4 displays the logistic regression coefficients for variables hypothesized to predict victim age younger than 6. The model was statistically significant ($\chi^2 = 46.827$, $df = 8$, $p < .001$), suggesting that the variables in the model reliably distinguished offenders who abused preschool-age children from those with older victims. The variance explained by the model is indicated by the Nagelkerke R^2 (.37) and can be interpreted to mean that the combination of factors in the model explain about 37% of the variance in very young victim age. The statistically significant variables were gender crossover ($p = .01$) and pedophilia ($p < .001$). Prediction analysis revealed that the model was able to correctly classify 89% of offenders with victims 6 and older and 63% of those with victims younger than 6, for an overall correct classification of 82%.

Table 4
Logistic Regression Analysis of Factors Predicting Victim Age < 6 (N = 163)

						95.0% C.I. for Exp(B)	
	β	*SE*	Wald	Sig.	Exp(B)	Lower	Upper
Gender crossover**	1.262	.509	6.157	.013	3.532	1.304	9.570
PCL-R score	.011	.032	.126	.722	1.011	.950	1.077
Pedophilia***	2.461	.478	26.526	.000	11.717	4.593	29.891
Antisocial	–.169	.593	.081	.776	.845	.264	2.700
Substance disorder	–.190	.450	.178	.673	.827	.343	1.998
Major mental illness	.063	.723	.008	.931	1.065	.258	4.391
Sexual abuse as child	–.665	.490	1.839	.175	.514	.197	1.345
Static-99 score	–.006	.111	.003	.958	.994	.799	1.237
Constant	–2.377	.708	11.283	.001	.093		
χ^2	46.827***						
–2 log likelihood	141.274						
Nagelkerke R^2	.37						

Note: $\chi^2 = 46.827$, $df = 8$, $p < .001$. C.I. = confidence interval; PCL-R = Psychopathy Checklist–Revised (Hare, 1991).
*$p \leq .05$. **$p \leq .01$. ***$p < .001$ (two-tailed tests).

If a sex offender had abused both genders, his odds of having perpetrated sex crimes against very young children were more than 3 times that of a sex offender with victims of only one gender. Having a diagnosis of pedophilia increased the odds of gender crossover more than 11 times. Major mental illness and psychopathy slightly increased the odds of preschool victims but not significantly. Static-99 score was not found to be predictive of young victim age.

Because the combination of psychopathy and sexual deviance has been known to increase risk (Quinsey, Harris, Rice, & Cormier, 1998), interactions were tested between pedophilia and psychopathy (PCL-R score) and between pedophilia and APD. Neither of these interaction variables proved to be significantly predictive of either gender crossover or young victim age in the logistic regression equations.

Discussion

The data supported the hypothesis that sex offenders with very young child victims are more likely to abuse both boys and girls. The findings suggest that sex offenders with very young child victims have less differentiated attraction to males or females. Men diagnosed with a major mental illness were also more likely to molest children of both sexes. Similarly, Firestone et al. (2005) found preschool

abusers to be more psychiatrically disturbed and to have abused a male victim. These results suggest the possibility that impaired psychiatric functioning rather than extreme sexual deviance may contribute to cross-gender victims for mentally ill offenders.

Likewise, the hypothesis that molesters who victimize both genders would be more likely to have younger victims was confirmed. Men diagnosed with pedophilia were much more likely to have preschool-age victims than other offenders but were only slightly more likely to have victims of both genders. It is curious that in spite of some research indicating less gender differentiation among pedophiles (Freund et al., 1991), in our analyses, pedophilia was not predictive of gender crossover. Possibly, some evaluators misdiagnosed some hebephiles (who may have more distinct gender preferences) as pedophiles. Others have noted that victim gender was not predictive of pedophilia, calling into question both the reliability of *DSM* criteria and the training of forensic evaluators (Kingston, Firestone, Moulden, & Bradford, 2007). On the other hand, it is not surprising that pedophilia predicted young victims, because by definition, pedophilia requires sexual thoughts, fantasies, or behaviors involving prepubescent children.

Substance abuse did not significantly contribute to either outcome, indicating that abusers of both sexes or preschool children were not more likely than other offenders to use chemical disinhibitors. This finding suggests the possibilities that (a) highly deviant pedophiles and mentally ill offenders do not require artificial disinhibitors to allow them to engage in the acts considered here and (b) offenders who are not highly deviant or mentally ill are not made less discriminating (at least in these ways) by intoxicants. These results differ from those of other studies that found that sex offenders with very young victims were more likely to abuse alcohol (Firestone et al., 2005).

APD and psychopathy appear to play little role in gender crossover. It was considered somewhat surprising that the addition of these two indicators of cold disregard for the welfare of others to sexual deviance did not result in increased likelihood of having very young or cross-gendered victims. This finding argues (weakly) for the notion that mere callousness may be insufficient to lead an offender to these victims.

Though our findings supported our hypotheses, it was beyond the scope of the study to test theories about why sex offenders of young children would be more apt to abuse both boys and girls. We speculate that pedophiles with an attraction to very young children have less differentiated gender preferences than other adults generally and other sex offenders specifically. Phallometric research has suggested the same (Freund et al., 1991). Preschoolers have fewer physical characteristics that distinguish gender, thus potentially equalizing their attractiveness to some offenders. As well, some sex offenders might be more attracted to the vulnerability, innocence, and manipulability of preschool children than to their overt sexual characteristics. That is, emotional control over these especially powerless victims might be more motivating than sexual interest per se. We presume, but have no way of testing, that some offenders

are drawn to very young victims simply because their limited cognitive and verbal abilities diminish the risk of disclosure and detection.

Implications for Practice

Clinicians are often called on to assess sexual abuse risk to children in child protective services (CPS) investigations and to make recommendations regarding placement, visitation, and reunification. It is not uncommon in such situations for those concerned with a child's welfare to wonder about the safety of a victim's siblings, for example, or the risk to other children who might come in contact with a known sex offender. Our findings here might supplement empirically derived tools and risk factors used by clinicians to make safety planning decisions. For instance, knowing that abusers of preschoolers are more likely to victimize both genders might be considered in a decision about contact between a male child and a sex offender convicted of molesting a 5-year-old girl. Although these data should not be used in isolation to make legal decisions, knowing that abusers of very young children seem to be more likely to abuse both boys and girls might prove useful in contributing to evidence-based assessment and safety planning.

Levenson and Morin (2006b) suggested that the sex offender risk assessment literature forms an empirically sound foundation from which CPS workers themselves can move toward more evidence-based practices in sexual abuse cases. Although substantial advances have been made in predicting recidivism by previously convicted sex offenders (Barbaree, Seto, Langton, & Peacock, 2001; Hanson & Thornton, 1999), such information has been slow to make its way into the CPS arena. Current CPS models designed to assess risk in physical abuse and neglect cases can be dangerously misleading when applied in sexual abuse cases (Levenson & Morin, 2006b). Whenever possible, research evidence should inform decisions about matters such as visitation, reunification, and permanency planning. Such information is also important in cases in which a known sex offender has gained access to other children (for instance, one has remarried a woman with children). The present findings about the relationship between victim age and gender preference can assist investigators when considering factors that may enhance or diminish child safety.

Sex offender treatment providers often conduct actuarial risk assessments to estimate the likelihood of reoffense. Because many sex offenses go unreported, however, official documents may not reflect all the risk factors pertinent to a particular offender. Polygraph examination has therefore become a useful supplementary tool for uncovering an offender's history and risk factors (English et al., 2000; English, Jones, Patrick, & Pasini-Hill, 2003; Heil et al., 2003; McGrath, Cumming, & Burchard, 2003). Our findings suggest that using polygraphy to detect a history of gender crossover or very young victims may be important for clinicians developing treatment plans, tailoring relapse prevention strategies, or refining community supervision interventions.

This study had some limitations. The sample was drawn from a pool being considered for civil commitment in Florida. Sex offenders are referred for civil commitment evaluation because they are viewed as more dangerous than the general sex offender population, so our sample may be different from more typical sex offenders. On the other hand, such a sample was perhaps ideal for identifying a population of sex offenders who were more likely to have abused very young children and to have crossover victims, because civil commitment screening selects those considered the "worst of the worst." Because sexual abuse of children often goes undetected, and sexual abuse of very young children may be especially underreported, any data not augmented by guarantees of anonymity (Abel et al., 1987) or confirmed by polygraph (English et al., 2000; Heil et al., 2003) are likely to underestimate the prevalence of gender crossover and abuse of very young children. Offender self-report and official documentation (i.e., arrest records) therefore may not accurately reflect sex offense patterns, which is another limit of this study. Furthermore, these results do not offer explanations for gender crossover or abuse of preschoolers, and continued etiological research is needed. It was beyond the scope of this study to examine recidivism of this sample. Future research should investigate the recidivism of the types of abusers described in this study. Finally, researcher bias can affect the validity of a research design through the inclusion or exclusion of potentially influential variables. The list of variables used in the study was generated from a review of relevant literature as well as discussions among the authors, but it is likely not exhaustive.

Despite these limitations, these results contribute to a virtually nonexistent literature regarding the relationship between age and gender preferences among sex offenders. Though neither victim age nor cross-gender offending has been identified as a risk factor for recidivism (Hanson & Bussiere, 1998; Hanson & Morton-Bourgon, 2005), we would suggest that both variables warrant further investigation. By virtue of their willingness to violate the most helpless of victims, molesters of very young children may be more likely to escape detection of their crimes. If the same offenders also target children of both sexes, they may have large numbers of unknown victims.

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